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<b>Message:</b>  <b>Enclosed herewith:</b> <ul style="list-style-type: none"><li>• Transmittal Document; and</li><li>• Appeal Brief.</li></ul>	
<b>Re: Application No. 09/903,725 Attorney Docket No: AUS920010488US1</b>	
<b>Date: Wednesday, October 26, 2005</b>	
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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OCT 26 2005

In re application of: Neal et al.

Serial No.: 09/903,725

Filed: July 12, 2001

For: System and Method for  
Simultaneously Establishing Multiple  
Connections§  
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§  
§  
§  
§

Group Art Unit: 2143

Examiner: Jean Gilles, Jude

Attorney Docket No.: AUS920010488US1

35525

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By:

Stephanie Fay

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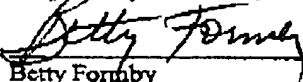
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- Appeal Brief (37 C.F.R. 41.37)

A fee of \$500.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0447. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

Respectfully submitted,



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Alexandria, VA 22313-1450, facsimile number (571) 273-8300  
on October 26, 2005.

By:

  
Stephanie Fry**APPEAL BRIEF (37 C.F.R. 41.37)**

This brief is in furtherance of the Notice of Appeal, filed in this case on August 30, 2005.

The fees required under § 41.20(B)(2), and any required petition for extension of time for filing this  
brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.10/27/2005 MBINAS 00000019 090447 09903725  
01 FC:1402 500.00 DA(Appeal Brief Page 1 of 27)  
Neal et al. - 09/903,725

**REAL PARTY IN INTEREST**

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

**RELATED APPEALS AND INTERFERENCES**

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

**STATUS OF CLAIMS****A. TOTAL NUMBER OF CLAIMS IN APPLICATION**

Claims in the application are: 1-24

**B. STATUS OF ALL THE CLAIMS IN APPLICATION**

1. Claims canceled: 4 and 7
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 1-3, 5-6, and 8-24
4. Claims allowed: None
5. Claims rejected: 1-3, 5-6, and 8-24
6. Claims objected to: 5 and 6

**C. CLAIMS ON APPEAL**

The claims on appeal are: 1-3, 5-6, and 8-24

**STATUS OF AMENDMENTS**

An amendment was filed on September 27, 2005, to remove objections to claims 5 and 6.  
This amendment has not yet been entered.

**SUMMARY OF CLAIMED SUBJECT MATTER****A. CLAIM 1 - INDEPENDENT**

The subject matter of claim 1 is directed to a method in a data processing system for managing communications, as seen from the active (initiating) side of the communications. The method is shown in Figure 11A and contains the steps of:

sending a communication management request from a first process to an adapter associated with a second process (The step of "sending" is shown in step 1110, although steps 1102-1108 demonstrate steps in preparation for sending. These steps are discussed on page 31, line 19 through page 32, line 17), wherein a private data field contains communication attributes for a plurality of communication connections and unreliable datagram resolutions (The data fields are discussed on page 31, line 22-27);

receiving a reply to said communication establishment request (Receiving is shown by a "yes" to step 1114, discussed on page 32, lines 14-23); and

responsive to said second process allowing said communication management request (A "yes" is received in step 1122, discussed on page 32, line 31 through page 33, line 7), initiating, under control of said adapter, multiple communication connections and unreliable datagram resolutions (The steps to finalize setting up the channels are shown in steps 1124-1130, discussed on page 33, lines 5-17).

**B. CLAIM 9 - DEPENDENT**

The subject matter of Claim 9 is directed to further steps in the method of claim 1. The additional steps include determining that a reply has not been received within a time limit (shown as step 1114, discussed on page 32, lines 18-20) and aborting the process (shown as step 1116, discussed on page 32, lines 26-30).



**C. CLAIM 13 - INDEPENDENT**

The subject matter of claim 13 is directed to a method in a data processing system for establishing multiple connections, as seen from the initiating side. The method is shown in Figure 11A and contains the steps:

sending a connection establishment request from a first process within said plurality of processes to an adapter associated with a second process within said plurality of processes, wherein a private data field contains a connection indicator; (The sending step is shown in the flowchart as step 1110, although steps 1102-1108 demonstrate steps in preparation for sending. These steps are discussed on page 31, line 19 through page 32, line 17; the connection indicator is discussed on pages 37 and 38).

receiving a reply to said connection establishment request (Receiving is shown by a "yes" to step 1114, discussed on page 32, lines 14-23); and

responsive to said second process approving said request, establishing multiple communication connections between said first process and said second process (The steps to finalize setting up the channels are shown in steps 1124-1130, discussed on page 33, lines 5-17).

**D CLAIM 17- INDEPENDENT**

The subject matter of claim 17 is directed to a system that executes a set of instructions. An exemplary system is shown in Figure 1, discussed on page 7, line 11 through page 12, line 9. Claim 17 is a system claim corresponding to Claim 1.

**E CLAIM 18- INDEPENDENT**

The subject matter of claim 18 is directed to a system that executes a set of instructions. An exemplary system is shown in Figure 1, discussed on page 7, line 11 through page 12, line 9. Claim 18 is a system claim corresponding to Claim 13.

**F CLAIM 19- INDEPENDENT**

The subject matter of Claim 19 is directed to a data processing system. This claim is corresponds to Claim 18, but containing means clauses.

**G. CLAIM 20 INDEPENDENT**

The subject matter of claim 20 is directed to a data processing system. This claim corresponds to Claim 13, but contains means clauses.

**H. CLAIM 21- INDEPENDENT**

The subject matter of Claim 21 is directed to a computer program product, the steps of which are described in Claim 1. Claim 21 corresponds to Claim 1

**I. CLAIM 22 - INDEPENDENT**

The subject matter of 22 is directed to a computer program product, the steps of which are described in Claim 13. Claim 22 corresponds to claim 13

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**A. GROUND OF REJECTION 1 (Claims 1-3, 5-8, 10-24)**

Claims 1-3, 5-8, 10-24 stand rejected under 35 U.S.C. § 103(a) as obvious over Dearth *et al.*, Mechanism for Completing Messages in Memory, U.S. Patent No. 6,744,765, June 1, 2004 (hereinafter "**Dearth**") in view of Bell, Computer Network Management Protocol Including Specification of Multiple Data Items, U.S. Patent No. 6,240,457, May 29, 2001 (hereinafter "**Bell**").

**B. GROUND OF REJECTION 2 (Claim 9)**

Claim 9 stands rejected under 35 U.S.C. § 103(a) as obvious over Dearth in view of Bell and Boucher *et al.*, Passing a Communication Control Block from Host to a Local Device Such that a Message is Processed on the Device, U.S. Patent No. 6,247,060, June 12, 2001 (hereinafter "**Boucher**").

## ARGUMENT

### A. GROUND OF REJECTION 1 (Claims 1-3, 5-6, 8, 10-24)

If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985). A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The rejection asserts:

Regarding claim 1: Dearth discloses the invention substantially as claimed. Dearth teaches a method, operable in a data processing system having a plurality of processes connection (column 1, lines 52-58), for performing a communication connection (fig. 1, items 1-13; column 2, lines 53-57), comprising the steps of:

- sending a communication management request from a first process within the plurality of processes via a communication establishment message to an adapter associated with a second process within said plurality of processes connection (column 2, lines 57-66);

- receiving a reply to said communication establishment request (column 2, lines 56-67; column 3, lines 1-2, 29-33); and

- responsive to the second process allowing said communication management request, initiating, under control of said adapter, multiple communication connections and unreliable datagram resolutions (column 6, lines 4-6; column 2, lines 19-23; it is important to note that in a data gram-based network, a sequence of packets from a source host to a destination host may take different path).

However, Dearth does not teach in details sending a communication management request wherein a private data field contains communication attributes for a plurality of communication connections and unreliable datagram resolutions.

In the same field of endeavor, Bell discloses a data request communication that that has attributes to connect and identify a plurality of data items [see Bell; column 3, lines 9-22].

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Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Bell's teachings of a method and apparatus for using field with attributes for communications connection with the teachings of Dearth for the purpose of allowing fewer packets being sent on the network, and fewer sequential packet delays; lower protocol overheads, and more efficient use of network bandwidth, as stated by Bell in lines 1-4 of column 4. By this rationale claim 1 is rejected.

The rejection has not established a prima facie case of obviousness against exemplary claim 1 because the combination of references relied on do not meet at least two specific claim features and also because one of ordinary skill in the art would not seek to combine these references when they are looked at as a whole. These will each be discussed separately.

#### **Claim Features Not Shown**

The combination of Dearth with Bell does not show or suggest two important features of the claimed invention: (a) the references do not show sending a communication management request that requests multiple connections/datagram resolutions and (b) the references do not show initiating multiple communications connections/datagram resolutions in response to the request being granted. These will be discussed in greater detail.

#### **Claim Feature: Communication Management Request**

The first step in claim 1 recites:

*sending a communication management request from a first process within said plurality of processes to an adapter associated with a second process within said plurality of processes, wherein a private data field contains communication attributes for a plurality of communication connections and unreliable datagram resolutions*

The section of Dearth cited against this feature states,

The system further includes a first channel adapter forming an interface between the client process and the communications channel. The first channel adapter is configured to receive a message from the client process, segment the message into a series of packets, assign a sequence number to each packet, and place the packets in order on the communications channel. The system further includes a second channel adapter forming an interface between the remote process and the communications channel.<sup>1</sup>

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<sup>1</sup> Dearth, column 2, lines 57-66

Although this excerpt mentions a message from the client process, there is no indication that this message is a communication management request. Instead, the message appears to be simply data passed between two processes. Additionally, even if this were a communication management request, the rejection notes that *Dearth does not teach in details sending a communication management request, wherein a private data field contains communication attributes for a plurality of communication connections and unreliable datagram resolutions*. For the specifics of the communications management request, the rejection asserts that *Bell discloses a data request communication that has attributes to connect and identify a plurality of communication connections and unreliable datagram resolutions ... Bell discloses a data request communication that has attributes to connect and identify a plurality of data items [see Bell; column 3, lines 9-22]*. This assertion equates the data request communication of Bell with the claimed communications management request. The cited portion of Bell recites:

The present invention is also a computer network comprising a plurality of interconnected network devices, including a first network device comprising means arranged to collect data relating to the operation of the first network device the network also including management means comprising request means arranged to send, to said first device, a data request communication according to a defined communication protocol in which each communication comprises a first part identify the data which is required and a second part wherein said request means forms said request communication such that said second part comprises identification of a plurality of data items and said first part identifies that said second part is of a type which comprises said identification.<sup>2</sup>

Bell is collecting data related to the operation of the network devices; there is nothing to indicate that the information it collects is part of establishing communication channels or providing datagram resolutions. Thus, although there is some superficial similarity between the message of Bell and the claimed communications management request, these messages are not the same, nor do they serve the same purpose or achieve the same goal. Performing the steps of exemplary claim 1 would result in either communications channels being arranged or datagram resolutions; Bell would not accomplish this activity.

As these excerpts from the references relied on show, the messages of Dearth and of Bell are data messages, not communications management requests. The communications

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<sup>2</sup> Bell, column 3, lines 9-22

management request recited in Claim 1 is an overhead item that must be performed in order to start communications between two processes; the cited portions of Dearth and Bell both show messages sent after communications have been established. Additionally, the multiple requests of Bell are not directed to setting up channels, nor are they directed to performing datagram resolutions. Thus, this feature is not met by the combination of the references relied on.

**Claim Feature: Initiating Multiple Communications Connections and Unreliable Datagram Resolutions**

The final step of Claim 1 recites:

*responsive to said second process allowing said communication management request, initiating, under control of said adapter, multiple communication connections and unreliable datagram resolutions.*

Against this step, the rejection cites the following portions of Dearth:

Returning to FIG. 2, the communications channel 5 may be a virtual circuit (or connection-oriented network) which interconnects the channel adapters 11 and 13. Alternatively, the communications channel 5 may be a datagram-based network. All Infiniband<sup>SM</sup> service types require explicit setup of switch routing tables by the subnet manager. The connection setup between the channel adapters 11 and 13 could be asymmetric or symmetric. If the connection setup is asymmetric, one side, e.g., the channel adapter 11, is active and the other side, e.g., the channel adapter 13, is passive, or vice versa. The active side makes an open call to the passive side and both sides engage in an exchange of messages to establish the connection. If the connection setup is symmetric, both sides are active and both sides try to open the connection at the same time. A connection manager (not shown) typically manages the connection setup between the channel adapters 11 and 13. Once the connection is established between the channel adapter 11 and 13, messages can be transmitted between the channel adapters 11 and 13 through the communications channel 16. A program running on the communications interface, e.g., the processor 10 (shown in FIG. 1) or the channel adapter 11 or other processor on the client node 1, e.g., an I/O processor, reads work queue elements in the order they were placed on the work queue 14. The program processes the work queue elements on the send work queue 14a by instructing the channel adapter 11 to send messages to the remote process 7 and the work queue elements on the receive work queue 14b by instructing the channel adapter 11 to receive messages from the remote process 7.<sup>3</sup>

In a datagram-based network, a sequence of packets sent from a source host to a destination host may take different paths. Infiniband<sup>SM</sup> also supports a form

<sup>3</sup> Dearth, col. 5, ln.57 through col.6, ln.19, only col.6, ln.4-6 (underlined) were cited

of datagram-based network which is based upon explicit setup of switch routing tables by the subnet manager.<sup>4</sup>

As mentioned above, the actions performed in the claimed step are overhead operations for communications between two processes. In one case – initiating communication connections – the overhead involves a handshake agreement in which the parameters that will be used are agreed upon, in order that all packets can be handled in the proper order. In the other case – initiating datagram resolutions – one of ordinary skill in the art would understand that the overhead involves obtaining information regarding the queue pair that will be expecting the communications, although a specific connection is not set up. In each case, the invention recited in Claim 1 is performing these overhead operations multiple times in a single handshake operation, i.e., for one handshake, multiple specific connections can be initiated and/or multiple queue pairs can be determined.

In contrast, **Dearth** is neither setting up multiple connections nor performing multiple datagram resolutions. **Dearth** demonstrates that this patent is capable of transacting communications using either connection-oriented or connectionless communications, including having a connection manager to handle the necessary overhead. What **Dearth** does not demonstrate is the ability to set up multiple connections or perform multiple datagram resolutions with a single hand-shake.

The second paragraph cited refers to the fact that a sequence of datagrams can travel different paths. The reference to different path is presumably meant to imply that **Dearth** has initiated either multiple connections or resolved multiple queue pairs. However, this is not what this statement says. Datagrams are part of a connectionless protocol, so this obviously is not referring to multiple connections that **Dearth** has established. Additionally, the fact that datagrams travel different paths does not mean that they are traveling between different queue pairs; it means that the intermediate steps – the switches and routers that the datagrams pass through – are different. If multiple datagram resolutions had been performed, **Dearth** should demonstrate the capability to send to multiple queue pairs, which has not been shown. Thus, this feature is not met by the references relied on.

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<sup>4</sup> Dearth, column 2, lines 19-23



**Would Not Combine References When Looked at as a Whole**

One of ordinary skill in the art would not combine the references when they are considered as a whole. In considering the references as a whole, one of ordinary skill in the art would look at the problems recognized and solved. **Dearth** is directed towards the transmission of messages between processes in a system area network. While **Dearth** is concerned with minimizing the overhead for communications, this application deals with overhead involved in transmitting the data, not with overhead in establishing the communications link in the first place. This patent notes:

Infiniband<sup>SM</sup> provides reliable transport services between client and remote processes using a combination of packet sequence numbers (PSNs) and acknowledgement (ACK) messages. That is, each packet sent to the receiver is assigned a PSN, and the receiver sends an ACK message to the sender acknowledging receipt of the packet. A negative ACK (NAK) message is sent for dropped or lost packets. The ACK messages tell the sender what packets have been received at the remote end by providing the PSN of the received packet. A message is completed when all the outstanding packets for the message have been acknowledged. However, with just the returned PSNs, the sender has no effective way of knowing when the message has been completed. To determine when a message has been completed, the sender reads a descriptor in the client's memory space, for every returned PSN, to determine the size of the original message, i.e., the number of packets in the original message. Then the sender uses this information along with the PSN to determine whether the message has been completed. These extra reads of descriptors translate into additional system bus overhead on top of the data movement between the processor and memory. Schemes to minimize this overhead can significantly improve system performance.<sup>5</sup>

As shown, **Dearth** is concerned about the number of packets that must be sent in acknowledgement of messages received. In contrast, **Bell** is directed to the management of networks and the communications necessary to achieve this management, noting:

... it is also known to provide management of the network. To enable a management to achieve the desired purpose it is necessary for it to be provided the details of how the network is functioning and for this purpose communication agents have been developed which, in addition to providing their basic communication function for the computing devices in the network, also collect information relating to the operation of the network. A "central" management agent can then communicate with management devices within the communication agents themselves, recover the collected information and, on

<sup>5</sup> **Dearth**, column 2, lines 27-50

the basis of the recovered information, perform the necessary management functions. ... The system is however relatively inflexible. Whereas, in the basic arrangement outlined above, the central management agent is able to request only the information it requires, although this may entail a large number of separate requests, with the accelerator object the information which is returned is predetermined. This may result in the management agent receiving and having to discard unwanted data, or having to send additional requests for data not defined within the accelerator object.<sup>6</sup>

Bell is concerned with collecting information about how a network is functioning, but does not demonstrate a concern with the mechanics of how packets are handled. These two problems are unrelated and one of ordinary skill in the art would not be motivated to combine these two references when they are read a whole. As further support, the two cited references provide different solutions. Dearth is directed towards minimizing "system bus overhead on top of the data movement between the processor and memory"<sup>7</sup> and finds a solution in the acknowledgement (ACK) messages sent. In contrast, Bell modified the requests for information that are sent, noting "*As SNMP does not support multiple values being returned to a single request, this must all be packaged into an opaque item (an OctetString) which can be encoded and sent in the value field of the SNMP request and then decoded by the Generic Management Agent (GMA) and the applications within device 10*". These patents are using different types of messages to accomplish their different goals. Thus, one of ordinary skill in the art would not be motivated to combine these two references in the manner suggested by the examiner. The references can be combined only through the improper use of hindsight with the benefit of applicants' disclosure as a template to reach the presently claimed invention.

Since specific limitations of the claims have not been met and one of ordinary skill in the art would not seek to combine the two references relied on, this rejection is overcome.

#### **B. GROUND OF REJECTION 2 (Claim 9)**

Regarding this claim, the rejection asserts:

Regarding claim 9: The combination Dearth-Bell discloses the invention substantially as claimed. Dearth-Bell teaches the method as recited in claim 1, further comprising:

determining the first process within the plurality of processes has not received a multiple connections and unreliable datagram resolutions reply

<sup>6</sup> Bell, column 1, line 25 through column 2, line 52

<sup>7</sup> Dearth, column 2, lines 45-50

message from the second process within a specified period of time (see Dearth column 9, lines 40-47); and

However Dearth-Bell is silent on the step of aborting a multiple connections and unreliable datagram resolutions communication establishment process. In the same field of endeavor Boucher et al disclose a multiple connections and unreliable datagram with the ability to force the context back off the INIC, since IRPs will only get cancelled when a connection is being aborted" (column 37, 57-62).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Boucher et al's teachings of aborting a multiple connection with the teachings of Dearth-Bell, for the purpose of minimizing overhead and significantly improve system performance as stated by Dearth et al in lines 19-23 of column 2. By this rationale, claim 9 is rejected.

It is noted that claim 9 is dependent on claim 1. Claim 1 has been shown to be allowable; therefore claim 9 inherits the allowability of its independent claim. Additionally, this claim discloses additional material that is not shown by the references cited. The rejection cites **Boucher** as disclosing the aborting of multiple connections. **Boucher** states:

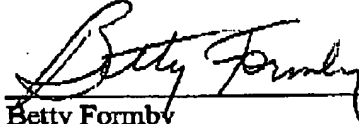
2. NT has a notion of "canceling" IRPs. It is possible for us to get a "cancel" on an IRP corresponding to an MDL which has been "handed" to the INIC by a send or receive request. We can handle this by being able to force the context back off the INIC, since IRPs will only get cancelled when the connection is being aborted.<sup>8</sup>

It can be seen from this that **Boucher** does show that connections can be aborted, although it is not even clear that this is the "*aborting of multiple connections*" that the rejection asserts. However, it is noted that claim 9 does not recite the "*aborting of multiple connections*" attributed to it, but "*aborting a multiple connections and unreliable datagram resolutions communication establishment process*". **Boucher** discloses aborting connections that have already been established; which is not the same as aborting the process of establishing communications. Thus, **Boucher** does not disclose even the recitation that is attributed to it. This rejection is overcome.

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<sup>8</sup> **Boucher**, column 37, lines 57-62

The Board of Appeals is respectfully requested to overturn the rejections and indicate all claims to be allowable.



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**CLAIMS APPENDIX**

The text of the claims involved in the appeal are:

1. A method, operable in a data processing system having a plurality of processes, for performing communication management, comprising the steps of:  
  
    sending a communication management request from a first process within said plurality of processes to an adapter associated with a second process within said plurality of processes, wherein a private data field contains communication attributes for a plurality of communication connections and unreliable datagram resolutions;  
  
    receiving a reply to said communication establishment request; and  
  
    responsive to said second process allowing said communication management request, initiating, under control of said adapter, multiple communication connections and unreliable datagram resolutions.
2. The method as recited in claim 1, wherein said first process is an active side of the process.
3. The method as recited in claim 1, wherein said second process is a passive side of the process.
4. (Canceled)
5. The method as recited in claim 4, wherein said channel adapter is a host channel adapter.

6. The method as recited in claim 4, wherein said channel adapter is a destination channel adapter.
7. (Canceled)
8. The method as recited in claim 1, further comprising:  
determining that said first process within said plurality of processes has received a reply from said second process within a specified period of time;  
passing said reply to said first process; and  
processing said reply message.
9. The method as recited in claim 1, further comprising:  
determining that said first process has not received said reply from said second process within a specified period of time; and  
aborting a multiple connections and unreliable datagram resolutions communication establishment process.
10. The method as recited in claim 8, further comprising:  
responsive to said reply being received by said first process, creating a communication management message; and  
posting said communication management message as a work request on a communication management send queue associated with said first process.
11. The method as recited in claim 10, wherein said communication management message is a "ready to use" communication management message.

12. The method as recited in claim 10, further comprising:
- converting, by a channel interface, said work request into a work queue element;
  - processing, by a channel adapter, said work request; and
  - sending said communication management message to said second process.
13. A method, operable in a data processing system having a plurality of processes, for establishing multiple connections, said method comprising the steps of:
- sending a connection establishment request from a first process within said plurality of processes to an adapter associated with a second process within said plurality of processes, wherein a private data field contains a connection indicator;
  - receiving a reply to said connection establishment request; and
  - responsive to said second process approving said request, establishing multiple communication connections between said first process and said second process.
14. The method as recited in claim 13, further comprising:
- placing said communication establishment request in a receive queue of a communication manager associated with said second process; and
  - passing said communication establishment request to said second process.
15. The method as recited in claim 13, further comprising:
- posting a reply to said communication establishment request as a work request on a communication management send queue associated with said second process; and
  - converting said work request into a work queue element by a channel interface.

16. The method of claim 13, wherein said multiple connections are considered established when said second process receives one of a message from at least one established connection and a "ready to use" message.

17. A system, comprising:

a bus system;

a communications unit connected to said bus system;

a memory, including a set of instructions, connected to said bus system; and

a processing unit connected to said bus system, wherein said processing unit includes at least one processor, wherein said processing unit executes said set of instructions to send a communication management request, via said communications unit, from a first process within a plurality of processes to an adapter associated with a second process within said plurality of processes and

responsive to said second process allowing said communication management request, initiates, under control of said adapter, multiple communication connections and unreliable datagram resolutions.

18. A system, comprising:

a bus system;

a communications unit connected to said bus system;

a memory, including a set of instructions, connected to said bus system; and

a processing unit connected to said bus system, wherein said processing unit includes at least one processor, wherein said processing unit executes said set of instructions to send a connection establishment request, via said communications unit, from a first process within a



plurality of processes to an adapter associated with a second process within said plurality of processes, and responsive to said second process accepting said connection establishment request from said first process, establishes multiple communication connections between said first process and said second process.

19. A system, operable in a data processing system having a plurality of processes, for performing a communication connection, comprising:

sending means for sending a communication management request, containing multiple requests for connections or unreliable datagram resolutions, from a first process within said plurality of processes to an adapter associated with a second process within said plurality of processes; and

initiating means, responsive to said second process allowing said communication management request, for initiating, under control of said adapter, multiple communication connections and unreliable datagram resolutions.

20. A system, operable in a data processing system having a plurality of processes, for performing a plurality of communication connections, comprising:

receiving means for receiving a connection establishment request from a first process within said plurality of processes to an adapter associated with a second process within said plurality of processes;

sending means for sending a reply communication establishment message, under control of said adapter, to said first process; and

establishing means, responsive to said second process receiving said communication establishment message from said first process, for establishing multiple communication connections between said first process and said second process.

21. A computer program product in a computer-readable medium for performing a communication connection, comprising:

instructions for sending a communication management request from a first process within a plurality of processes to an adapter associated with a second process within said plurality of processes; and

instructions, responsive to said second process allowing said communication management request, for initiating, under control of said adapter, multiple communication connections and unreliable datagram resolutions.

22. A computer program product in a computer-readable medium for performing multiple communication connections, comprising:

instructions for sending a connection establishment request from a first process within a plurality of processes to an adapter associated with a second process within said plurality of processes; and

instructions, responsive to said second process accepting said connection establishment request from said first process, for establishing multiple communication connections between said first process and said second process.

23. The method of claim 13, wherein said communications indicator contains communication attributes for a plurality of connections.

24. The method of claim 13, wherein said communications indicator contains a name of a connection group.

**EVIDENCE APPENDIX**

There is no evidence to be presented.

**RELATED PROCEEDINGS APPENDIX**

There are no related proceedings.